Hakko Electronics Co., Ltd.

February 23, 2015

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V9 Strength

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< User Friendly Operation >

Capacitance Type Touch Panel

V9 Advanced only

V9 Advanced

V9 Standard

V9 Lite

User Friendly Operation is performed.
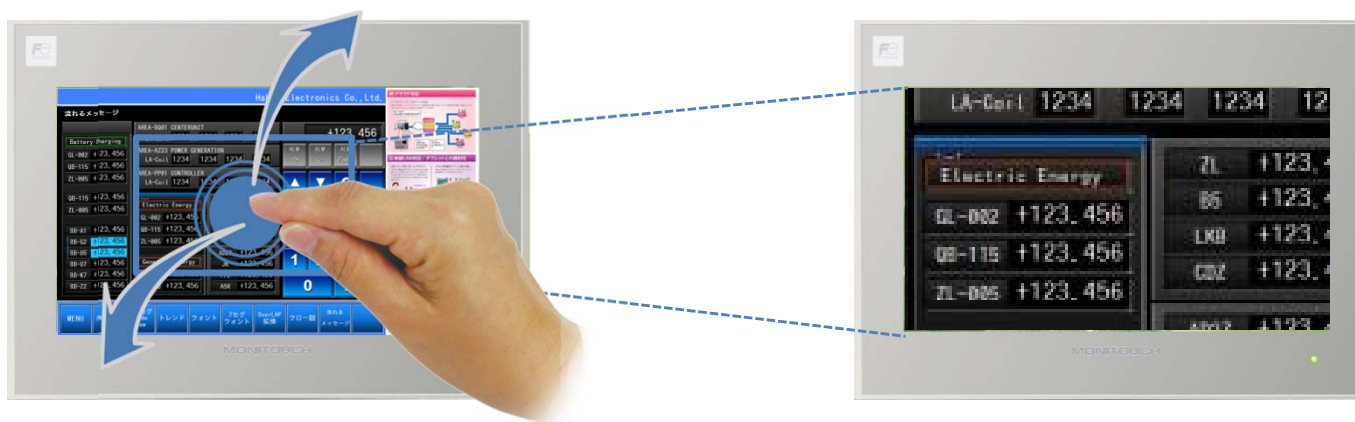
Pinch-in/Pinch-out supported

It is possible to expand the screen to the maximum of 200%.*1 The size of expanded screen can be controlled by pinch-in pinch-out operation.

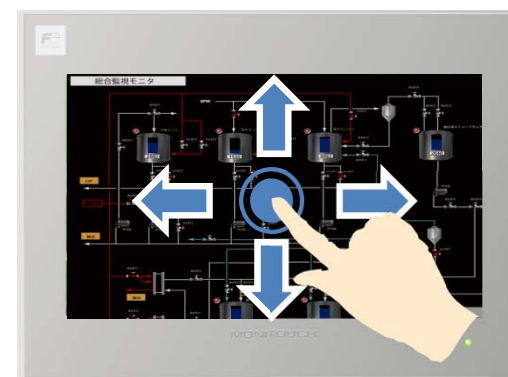**V9 Advanced only**

Max.
200%
expansion

*1　V9 Standard/Lite are available for screen expansion by double-touching.

Scroll Operation supported

It is possible to see a particular part in close- up while scrolling around the entire screen.

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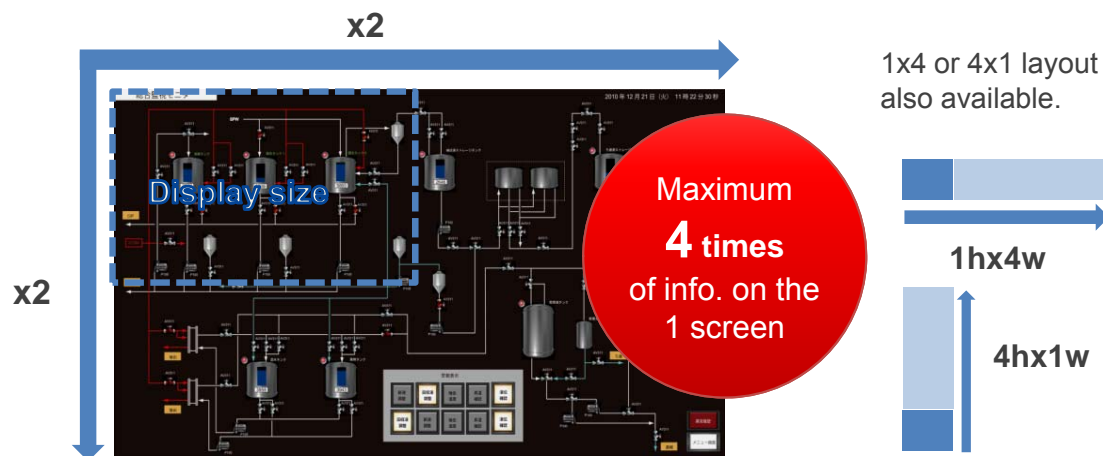
< Improved Expression >

First in Industry

Versatile Screen Size (Max. 4 times of the size are available to register)

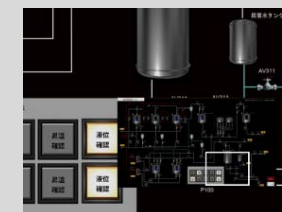Screen can be enlarged in height and width depending on your needs.

x2

x2

Display size

1x4 or 4x1 layout also available.

Maximum **4 times** of info. on the 1 screen

1hx4w

4hx1w

Navigator window supported

There is the navigator window on the screen when the scroll function is used. It helps to find the location of zoomed area.

Overlap supports the screen expansion

It is possible to use the overlap as the sub-screen and it can be operated individually without changing the screen pages. (Max. 4 times of the size.)

Overlap
Use the overlap as the sub-screen.

By scrolling

10.1 wide LCD

V9 Advanced only

Equipped with high-resolution, widescreen LCD (16:9). Greater volume and variety of information can be displayed on the screen.
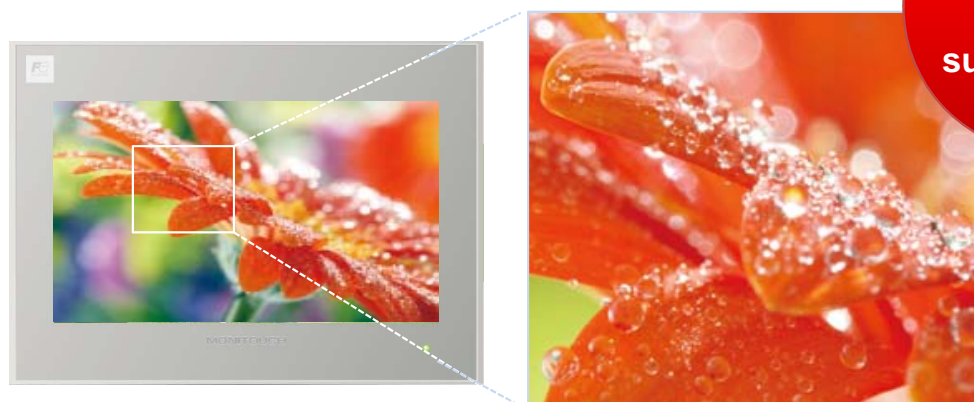
4:3
（800×600）

16:9
（1024×600*1）

*1 V9101iW only.

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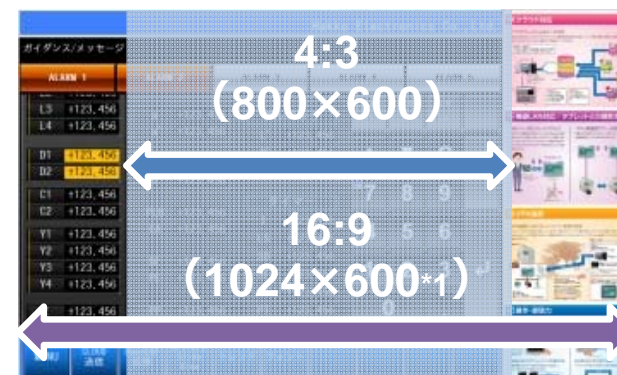
< Power of Expression improved (1) >

16 million colors supported[1]

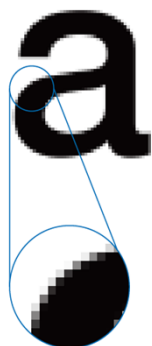**High-performance of gradation is available.**

16M colors supported [1]

[1] Picture parts and Video input only. The other functions support 64K colors.

Smooth Font

True Type fonts have been added, and the new anti-aliasing function ensures clear expression.

Before smoothing   After smoothing

7-segment fonts supported

The power of expression has been improved by supporting the 7-segment fonts which is used on the real measuring machine.

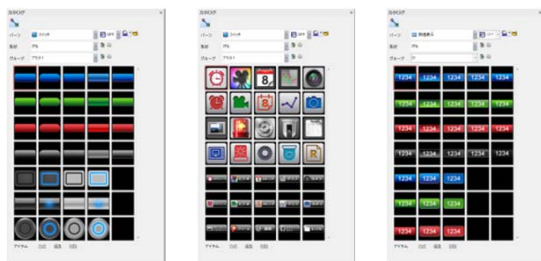稼働監視画面   13.09.05 16:18:17 THU
生産状況
目標数 14636 個
生産数 13456 個
良品数 13447 個
不良数   9 個

P1温度 PV 110 SV 98
P2温度 PV 110 SV 98

運転 停止 自動 手動

運転モニタ データ管理 タイマー設定 操作履歴 I/Oモニタ MAIN MENU

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< Power of Expression improved (2) >

V9 Advanced

V9 Standard

V9 Lite

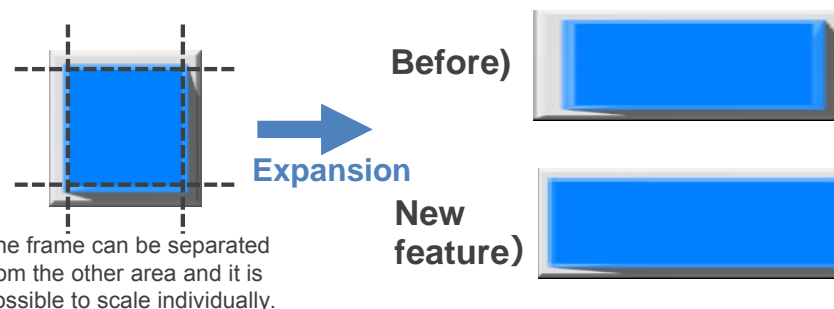## Plain Parts (Extend the parts)

The new useful parts are added.

Any parts can be user-friendly since it supports PNG file.

3D parts improved

The frame size of 3D parts will not be expanded when it is expanded.

Expansion

The frame can be separated from the other area and it is possible to scale individually.

Before)

New feature)

Screen Transition supported

15 kinds of function are available for screen switching and operating.

Slide-In

Box-In

Swap

15 kinds of function are available

Portrait supported

It is possible to mount MONITOUCH in portrait form since the software supports the portrait function.

All models supported

CW/CCW supported.

Also available with system menu.

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< Wireless LAN >

It is possible to connect with the wireless device without preparing the external access point.

Main features

Item	Specifications
Standard	IEEE802.11b, IEEE802.11g, IEEE802.11n
Frequency	2.4GHz band（2.412GHz - 2.472GHz）
Channel	1 - 13ch（Channel interval: 5MHz）
Transmission method	11b, 11g, 11n
Access method	Infrastructure mode, adhoc mode
Operation mode	Access point mode, station mode
Wireless LAN security	WEP, WPA PSK, WPA2 PSK
Connectable nodes (per 1S-AP)	6 (max.)

No Need

Wireless LAN Access point

V9 program/PLC program transmission

It is possible to transfer screen program or PLC program via wireless LAN between a PC and V9.

・ **Screen program**
・ **PLC program**

PLC program

Exchanging the data between the panels

It is possible to exchange the data between the connected device though the touch panel.

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\<VNC server\>

It is possible to connect with the wireless device without preparing the external access point.

Monitor →

← Operation*1

- Available with all models
- No license needed

*1 Write-protect is possible.

VNC client application

It is possible to display the same V9 application to monitor/operate from remote site by installing a VNC client application on a tablet terminal. (1:1 connection only.)

Verified VNC application

For iPad/iPhone:

Jump Desktop	abtoVNC Viewer	VNC Viewer
JPY1,500	JPY400	JPY1,000

For Android:

Vnc-Viewer Lite	RemoteToGo
Free	Free

＊Prices as of January 2014.
Please check the price before the purchase.

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< Network function improved >

VPN is supported as the standard function.

"Easy" "Low-price" "Safe" monitoring is available.

TELLUS and V-Server   Ladder application

Block

VPN tunnel   VPN tunnel
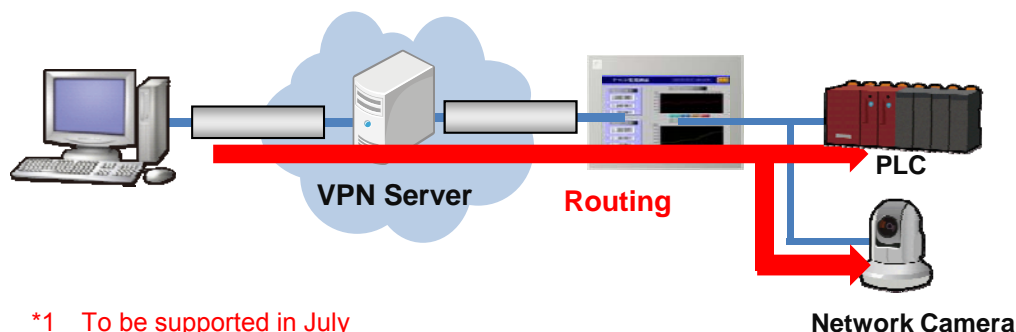
Ethernet

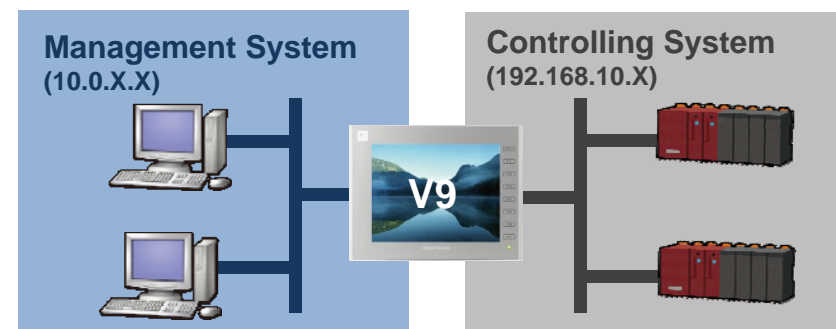VPN   VPN server   VPN

PC   PLC

Office   Factory
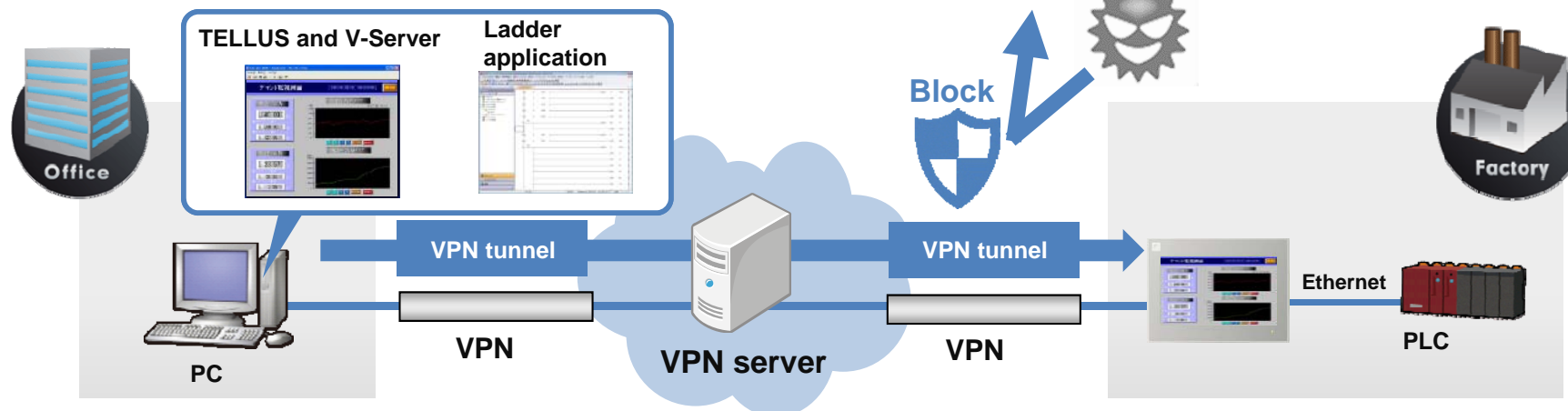
Router function supported *1, 2

It is possible to monitor/control the devices which is connected to V9 series via Ethernet remotely with this function.

VPN Server   Routing   PLC

Network Camera

*1   To be supported in July

*2   It is available with V9 which supports the extended wired-LAN V9.

2CH LAN ports supported *3

It is possible to use V9 as the gateway of the different networks.

Management System (10.0.X.X)   Controlling System (192.168.10.X)

V9

*3   The optional unit (under development) will be required except V9101iW.

Extended features Improvements

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< Trend Sampling >

Backup data display

It is possible to display backup files on the V9.

Read

bin

Backup files

Backup file can be created

Just turning on the arbitrary bit once can create the backup files easily.

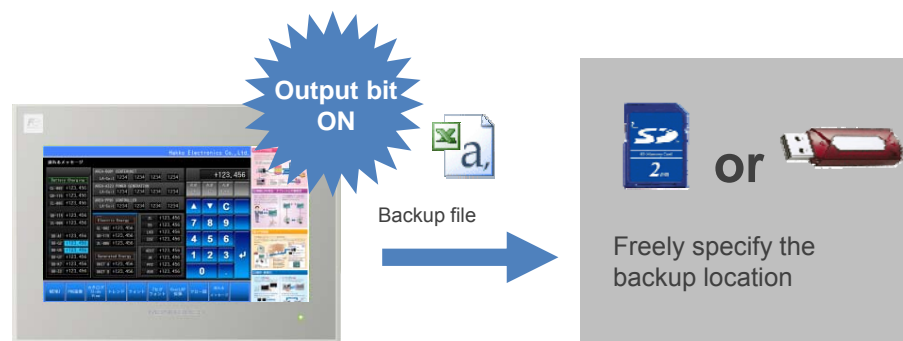
Output bit ON

Backup file

or

Freely specify the backup location

Link to "Scheduler"

You can run/stop sampling and save backup files at preset date (even everyday), week, or time.

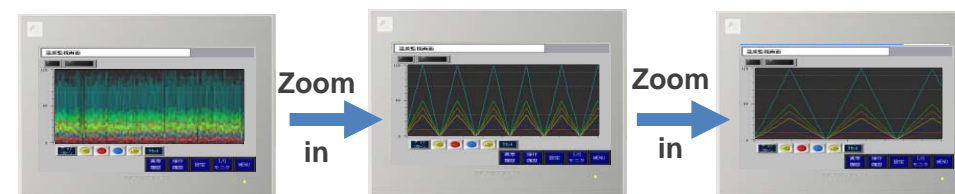**Start/stop sampling**

Generate backup files

Zoom-in/out display

It is possible to zoom-in/out by timeline.

Zoom in   **Zoom in**

· **Scroll up/down the graph**

Trend graph in magnified view can be scrolled by touch & drag operation.
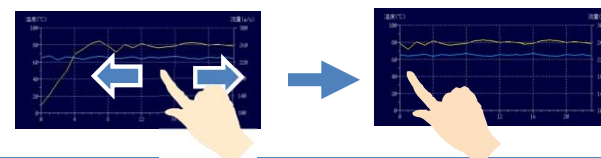
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< Alarm Display >

Backup data display

It is possible to display backup files on the V9.

bin

Backup files

Flowing message

Flowing message can be displayed at predefined position when alarms occur.

Scroll tool for flowing Message available.

Move message area   FF   STOP

Flowing message ssagess

Scrolling messages in horizontal direction

It is possible to display the messages that does not fit in the display area by touch & drag.

<ON> 12-10 16:15:43	Tank A	
<ON> 12-10 16:15:45	Tank B	
<ON> 12-10 16:15:49	Tank C	
<ON> 12-10 16:15:55	Tank D	
<ON> 12-10 16:15:58	Tank E	

5:43	Tank A Temp error HI
5:45	Tank B Temp error HI
5:49	Tank C Temp error LO
5:53	Tank D Temp error HI
5:58	Tank E Temp error LO

Display complete messages by scrolling entire display area.

< Recipe >

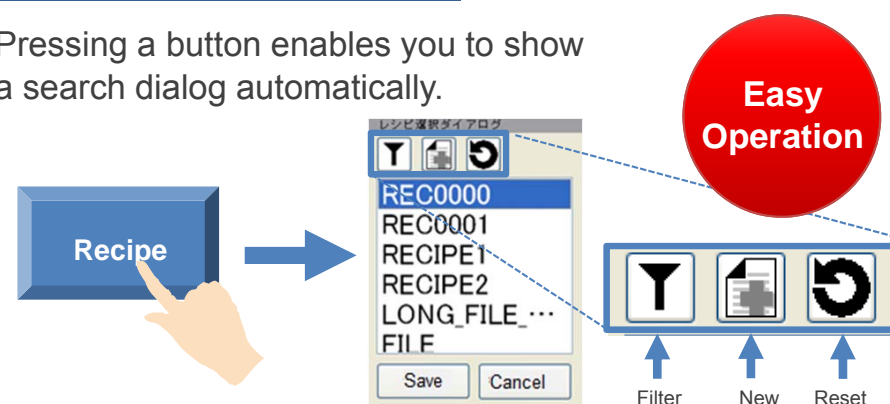## Global recipe

Read out/ write in of specified file or record can be done by setting a bit on any screen.

Bit ON

Loading recipe
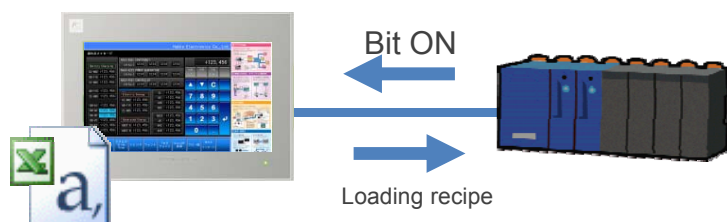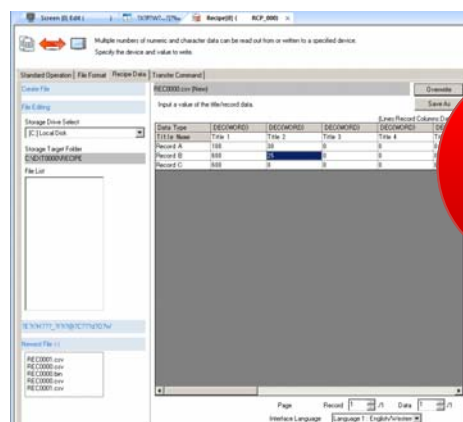
Search/filter function

Pressing a button enables you to show a search dialog automatically.

Easy Operation

Recipe

レシピ選択ダイアログ

REC0000
REC0001
RECIPE1
RECIPE2
LONG_FILE_···
FILE

Save   Cancel

Filter   New   Reset

*1 Image of the dialog may differ from the final specifications.

Recipe file edit on V-SFT

It is possible to edit a CSV/BIN file on V-SFT*2 .

Easy!

*2   Image of the dialog may differ from the final specifications.

< Overlap >

V9 Advanced
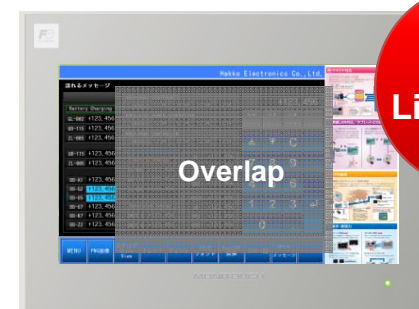
V9 Standard

V9 Lite

Extended overlap number

Up to 10 overlaps can be displayed on a screen.

10 ovlps at the same time

Overlap

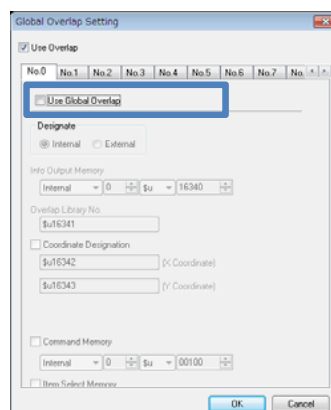## Superimpose overlap without limitation

You can set 10 overlaps to "superimpose".

No Limitation

Overlap

Global overlap without limitation

All the ten overlaps can be assigned as global overlaps.

Check the ID which you wish to use as a global overlap.

Use of Overlap   Example

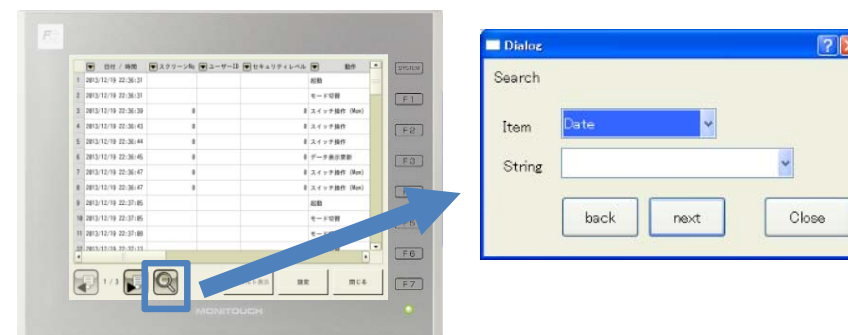Various screen representation can be achieved by using these extended overlaps.

Tab switching can be realize in one screen

Display message box

Common menu screen displayed as global overlap

Entry Key pad display

< Operation log >

Renewed log viewer

New viewer will give you better operability and visibility.

Title line *1
Filter will be available by item.

File switch
Switches the log files to display.

Better visibility

Log display
Double click the line to call details.

Settings
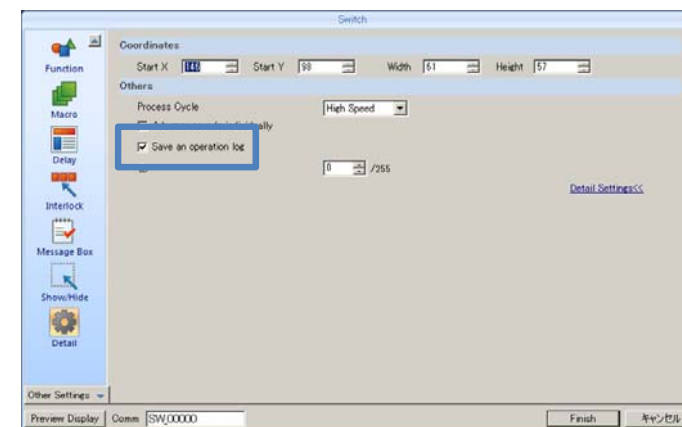Set various settings related to the viewer.

Viewer supported as standard

By simply placing a log viewer display button, you do not need to set display area for operation log screen.

Easy setting

Search function

You can search the log by specifying operator or date/time.

Setting by item

You can determine when you use the operation log by item.

*1   To be supported in fall 2014.

\<Multimedia\>

PDF viewer

It is possible to display PDF files stored in a SD card. It is ideal solution for troubleshooting by keeping manuals etc.

Read

PDF file

V9 series

Useful

Bookmark function helps you to find the pages you wish to refer.

Video-in and RGB-in/out

Optional units enable you to display video image or RGB image on V9. It is also possible to output V9 screen to a monitor.

16.7M colors

V9 series

Option unit

Model	Description
GUR-04	Video input 1CH
GUR-01	RGB input 1CH
GUR-02	RGB input 1CH

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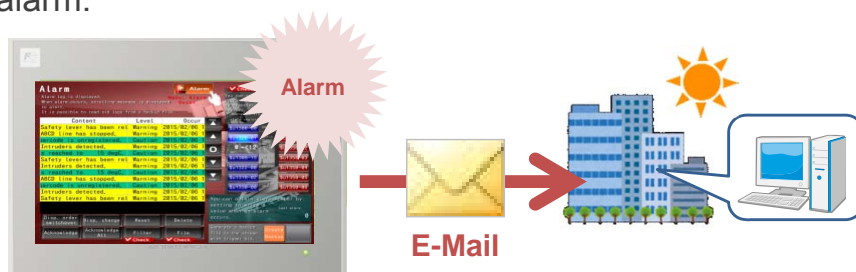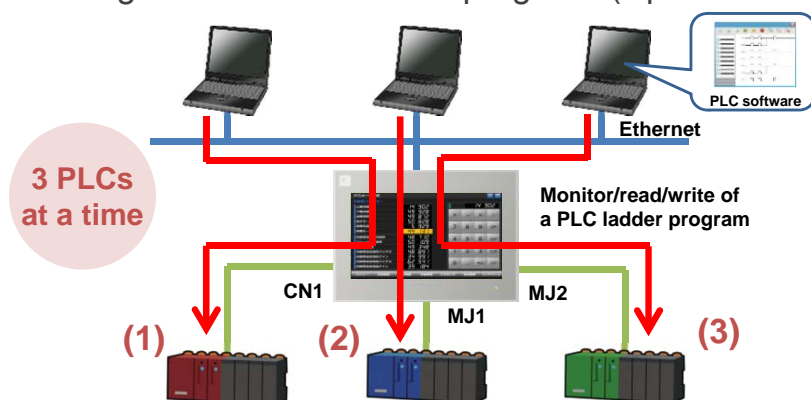# < Network >

E-Mail transmission

It is possible to send an email when alarm occurs or resets. Different recipients can be set depending on the alarm.
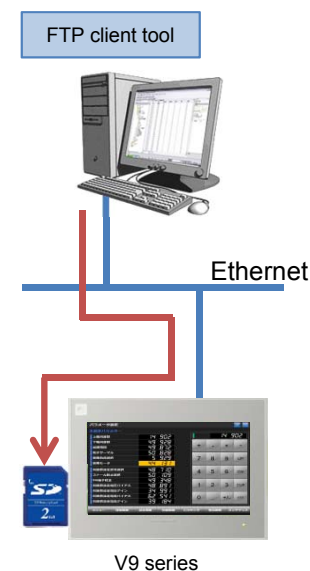

Alarm

E-Mail

V9 series

Ladder transfer in 3WAY

By connecting a PC to V9 via Ethernet, you can change or monitor the PLC program. (Up to 3 PLCs)

PLC software
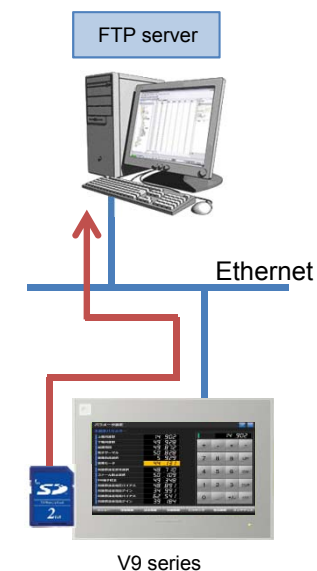
Ethernet

3 PLCs at a time

Monitor/read/write of a PLC ladder program

CN1   MJ2
MJ1

(1)   (2)   (3)

FTP server/client

<FTP server>

You can read/write files in a storage inserted in the V9 from a PC.

FTP client tool

Ethernet

V9 series

・Recipe data
・PDF file
・Image data
・Sound file

<FTP client>

V9 reads/writes files in a FTP server.

FTP server

Ethernet

V9 series

・Logging data
・Alarm history
・Operation log
・Image (hardcopy, snapshot)
・Datasheet

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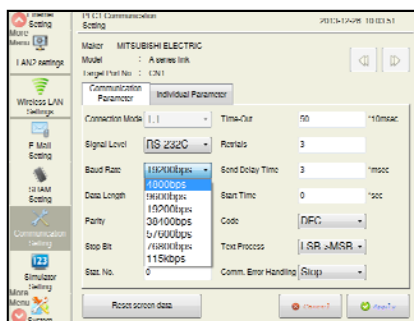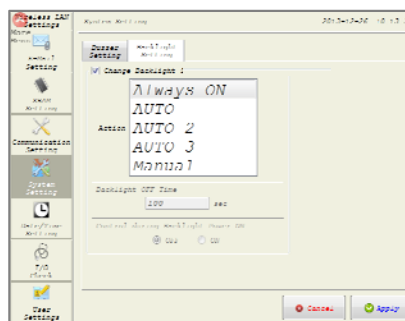
< Main Menu >

Communication parameters

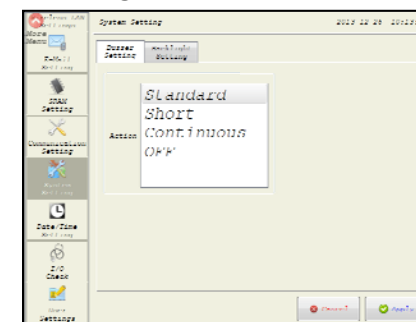You can change parameters on V9.

Backlight settings

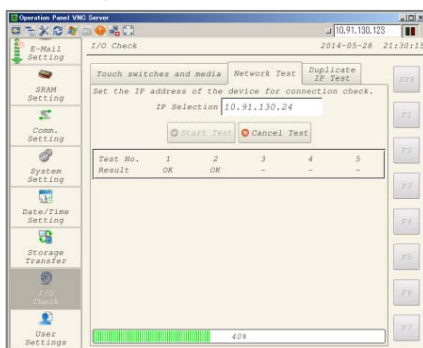Backlight settings can be changed on V9.

Buzzer settings

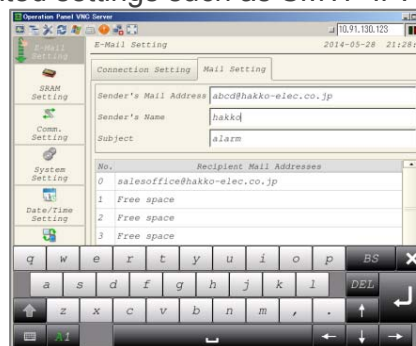It is possible to change the buzzer settings on V9.

Network test

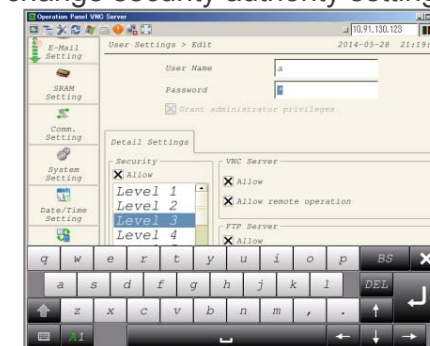You can check connection status or address duplication on a network.

E-mail settings

It is possible to change an E-Mail address and related settings such as SMTP IP.

User settings

You can add/delete user information and change security authority settings.

< Unit display function >

Splash screen setting

Splash screen which is displayed while booting can be customized.
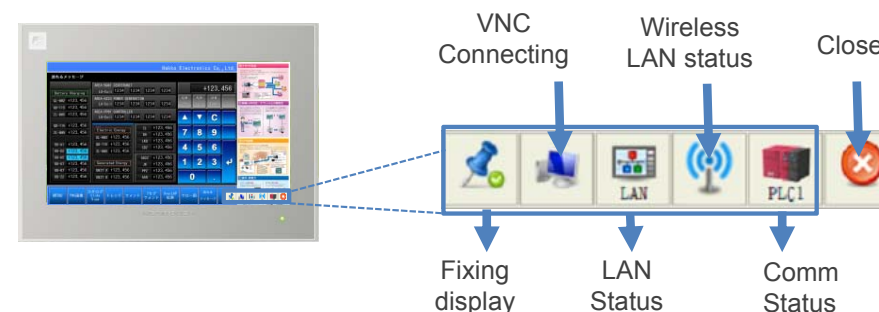
(Default)   (Customized example)

Status display

Status of V9 is displayed in a status bar. *1

VNC Connecting   Wireless LAN status   Close

Fixing display   LAN Status   Comm Status

*1 Final specifications may differ from above images.

Improved comm error display

1) Improved error messages

Received error content is explained in sentence.

e.g.) Error code received.
Specified device no. is out of range.

2) Displaying icon to indicate comm error item

When "Comm. Error Setting" is set to "Disconnect", the item with comm. error shows an icon as below.

123.4

System keyboard

Alphanumeric keyboard with upper/lower cases is equipped as standard.

Easy

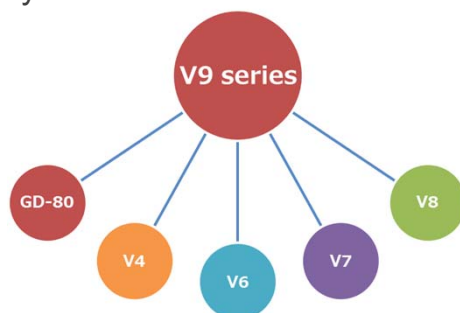Simply select "system keyboard" when configuring numeric/character display.
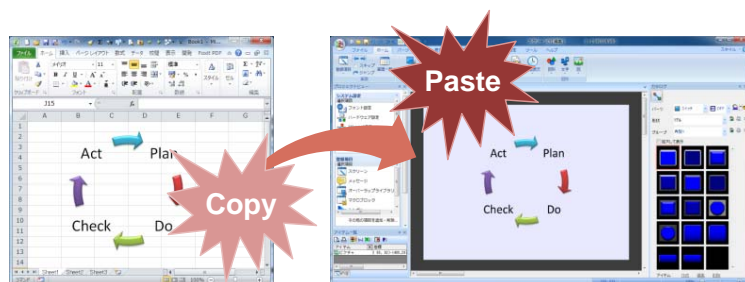
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<V-SFT-6>

Replacing from V8 or legacy models

It is possible to convert old screen programs to reuse them with the latest models so that you can utilize your property and know-how.

String table

This is a table to manage texts on the screens.

By adding texts that you use frequently to this table, you can call the texts on any screen.
Simply modify the texts in the table to apply the change to all the screens.

Copy & paste objects from MS Office

Objects of MS Office such as Word or Excel can be copied and pasted on V-SFT, by converting them to picture, pattern or part item.
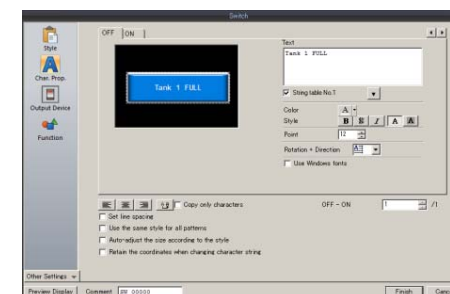

Line width designation

You can specify the line thickness from 1 to 8 points to realize well-modulated, easy-to-understand expression.

1-pt
2-pt
3-pt
4-pt
5-pt
6-pt
7-pt
8-pt

Line-up

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< Lineup >

	5.7" VGA(640x480)	7.0" WVGA(800x480)	8.4" VGA(640x480)	8.4" SVGA(800x600)	10.1" WSVGA(1024x600)	10.4" VGA(640x480)	10.4" SVGA(800x600)	12.1" SVGA(800x600)	15.0" XGA(1024x768)
Advanced		O V9071iWRLD V9071iWLD V9070iWRLD V9070iWLD			O V9101iWRLD V9101iWLD V9100iWRLD V9100iWLD				
Standard				O V9080iSD V9080iSLD V9080iSRD			O V9100iS V9100iSD V9100iSLD V9100iSRD	O V9120iS V9120iSD V9120iSLD V9120iSRD	O V9150iX V9150iXD V9150iXLD V9150iXRD
Lite	O V9060iTD		O V9080iCD			O V9100iC V9100iCD			

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< Lineup Details >

Advanced

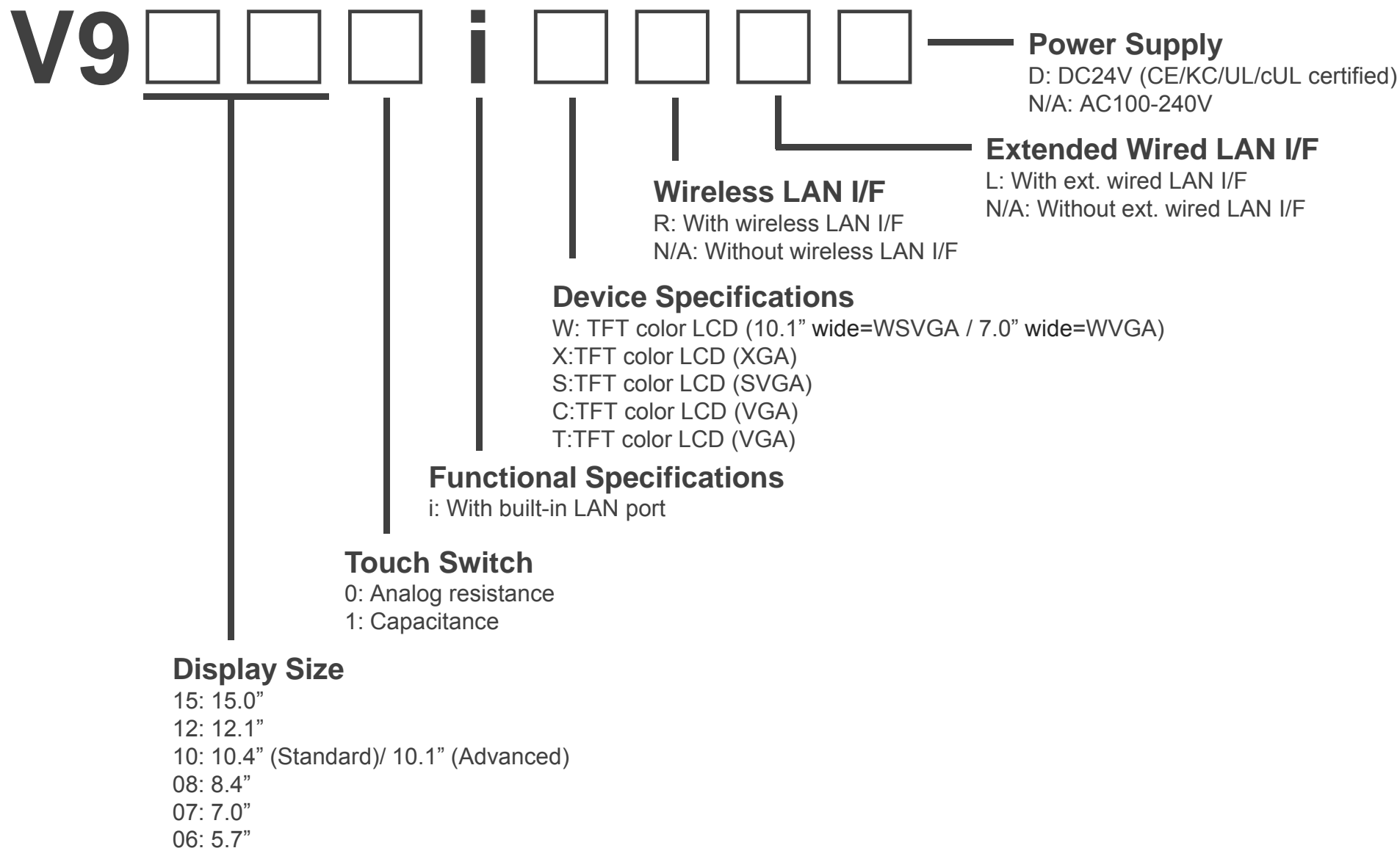| Model	Display Size	Resolution	Touch Switch	Comm. network*1	Video RGB*1	Audio Output	Wireless LAN	Extended Wired LAN	Power Supply	Note
V9101iWRLD	10.1" wide	1024*600	Capacitance	O	O	O	O	O	DC	
V9101iWLD	10.1" wide	1024*600	Capacitance	O	O	O	-	O	DC	
V9071iWRD	7.0" wide	800*480	Capacitance	O	-	-	O	-	DC	
V9071iWLD	7.0" wide	800*480	Capacitance	O	-	-	-	O	DC	

Standard

Model	Display Size	Resolution	Touch Switch	Comm. network*1	Video RGB*1	Audio Output	Wireless LAN	Extended Wired LAN	Power Supply	Note
V9150iX	15.0"	1024*768	Analog resistance	O	O	O	-	-	AC	
V9150iXD	15.0"	1024*768	Analog resistance	O	O	O	-	-	DC	
V9120iS	12.1"	800*600	Analog resistance	O	O	O	-	-	AC	
V9120iSD	12.1"	800*600	Analog resistance	O	O	O	-	-	DC	
V9100iS	10.4"	800*600	Analog resistance	O	O	O	-	-	AC	
V9100iSD	10.4"	800*600	Analog resistance	O	O	O	-	-	DC	
V9080iSD	8.4"	800*600	Analog resistance	O	O	O	-	-	DC	

Lite

Model	Display Size	Resolution	Touch Switch	Comm. network*1	Video RGB*1	Audio Output	Wireless LAN	Extended Wired LAN	Power Supply	Note
V9100iC	10.4"	640*480	Analog resistance	O	-	-	-	-	AC	
V9100iCD	10.4"	640*480	Analog resistance	O	-	-	-	-	DC	
V9080iCD	8.4"	640*480	Analog resistance	O	-	-	-	-	DC	
V9060iTD	5.7"	640*480	Analog resistance	O	-	-	-	-	DC	

*1 Release data will differ by each product. Please ask your contact person for the details.

< Model >

V9 ☐ ☐ ☐ **i** ☐ ☐ ☐ ☐

Power Supply
D: DC24V (CE/KC/UL/cUL certified)
N/A: AC100-240V

Extended Wired LAN I/F
L: With ext. wired LAN I/F
N/A: Without ext. wired LAN I/F

Wireless LAN I/F
R: With wireless LAN I/F
N/A: Without wireless LAN I/F

Device Specifications
W: TFT color LCD (10.1" wide=WSVGA / 7.0" wide=WVGA)
X: TFT color LCD (XGA)
S: TFT color LCD (SVGA)
C: TFT color LCD (VGA)
T: TFT color LCD (VGA)

Functional Specifications
i: With built-in LAN port

Touch Switch
0: Analog resistance
1: Capacitance

Display Size
15: 15.0"
12: 12.1"
10: 10.4" (Standard)/ 10.1" (Advanced)
08: 8.4"
07: 7.0"
06: 5.7"

< General Specifications >

Item		V9 Advanced		V9 Standard							V9 Lite			
		V9101iW	V9071iW	V9150iX	V9150iXD	V9120iS	V9120iSD	V9100iS	V9100iSD	V9080iSD	V9100iC	V9100iCD	V9080iCD	V9060iTD
Power Supply	Rated voltage	DC24V		AC100-240V	DC24V	AC100-240V	DC24V	AC100-240V	DC24V	DC24V	AC100-240V	DC24V	DC24V	DC24V
	Permissible range of voltage	±10%		-15%,+10%	±10%	-15%,+10%	±10%	-15%,+10%	±10%	±10%	-15%,+10%	±10%	±10%	±10%
Installation Resistance		DC500V 10MΩ or more												
Physical Environment	Ambient operating temperature	0 to 50 degree C *1												
	Ambient operating humidity	85% RH or less (without dew condensation, Max. wet bulb temperature: 39 degree C or less) *1												
	Operation altitude	2,000 meters or less												
	Operation atmosphere	Not exposed to corrosive gas or conductive dust												
	Ambient storage temperature	-10 to 60 degree C *1												
	Ambient storage humidity	85% RH or less (without dew condensation, Max. wet bulb temperature: 39 degree C or less) *1												
	Ambient operating temperature	Level 2												
Mechanical Operating Conditions	Oscillation	JIS B 3502 (IEC61131-2), Vibration frequency: 10 to 150Hz, acceleration: $9.8 m/s^2$ (1G), pulsating width: 0.075mm, X,Y,Z: 3 directions 1 hour each way												
	Shock	JIS B 3502 (IEC61131-2), Pulse shape: half-sine, peak acceleration: $147 m/s^2$ (15G), X,Y,Z: 3 directions, 6 times each way												
Electric Operating Conditions	Noise proof	1000Vp-p, pulse width: 1μs, pulse rise time: 1ns		1500Vp-p, pulse width: 1μs, pulse rise time: 1ns										
	Static discharge	Complies with IEC61000-4-2, contact: 6kV, air: 8kV												
Installation Conditions	Grounding	D-class grounding (the third class grounding), FG/SG separation												
	Structure	Protect structure: front panel: NEMA #250 TYPE 4X (indoor)/13 *2,3, rear case: compatible with IP20, form: single unit, installation method: panel mounting												
	Cooling system	Natural air cooling												
	Dimensions WxHxD (mm)	278.5×198.5×54.4	201.6×147.6×60.3	382.8×312.8×80.8		327.8×261×54.9		303.8×231.0×54.0		235.0×180.0×48.9	303.8×231.0×54.0		235.0×180.0×48.9	182.5×138.8×53.0
	Panel cutout WxH (mm)	257.0×183.0 (+0.5/-0)	187.2×133.4 (+0.5/-0)	369.4×299.4 (+0.5/-0)		313.0×246.2 (+0.5/-0)		289.0×216.2 (+0.5/-0)		220.5×165.5 (+0.5/-0)	289.0×216.2 (+0.5/-0)		220.5×165.5 (+0.5/-0)	174.0×131.0 (+0.5/-0)
Case color		Gray		-		Gray								
Material		PC resin		Aluminum		PC resin								

*1 Please use in the environment of wet bulb temperature 39 degree C or less.

< Performance Specifications >

Item		V9 Advanced		V9 Standard				V9 Lite		
		V9101iW	V9071iW	V9150iX	V9120iS	V9100iS	V9080iSD	V9100iC	V9080iCD	V9060iTD
Screen memory (FROM)		64MB								
Backup memory (SRAM)		800KB								
Display specifications	Display device	TFT color								
	Resolution	1024×600	800×480	1024×768	800×600			640×480		
	Display size	10.1" wide	7" wide	15"	12.1"	10.4"	8.4"	10.4"	8.4"	5.7"
	Colors	16.7M colors *1								
	Backlight	LED								
	Backlight life	50,000h	100,000h	70,000h						50,000h
Touch switch	Type	Capacitive		Analog resistive						
Function switch	Numbers of switches	-		8						6
External interface	D-Sub 9pin (x1) *2	RS-232C/RS-422/RS-485 Asynchronous type, Data length: 7, 8bit, Parity: even, odd, none, Stop bit: 1, 2bit, baud rate: 4800, 9600, 19200, 38400, 57600, 76800, 115200, 187500 (*3) bps								
	Modular 8-pin (x2)	RS-232C/RS-422/RS-485(2-wire system) *5 Asynchronous type, Data length: 7, 8bit, Parity: even, odd, none, Stop bit: 1, 2bit, Baud rate: 4800, 9600, 19200, 38400, 57600, 76800, 115200bps								
	SD card	1 slot as standard equipment								
	Ethernet	2CH Baud rate: 100Mbps, 10Mbps		1CH Baud rate: 100Mbps, 10Mbps						
	Wireless LAN	2.4GHz bandwidth IEEE80.2 11/b/g/n *5		-						
	USB	Type A, Type mini-B(Ver.2.0)								
	Audio output	1CH	-	1CH				-		
Clock	Backup period	5 years (ambient temperature 25 degree C)								
	Calendar accuracy	Gap ±90 sec. per month (ambient temperature 25 degree C)								
Applicable standards	CE marking *6	EN61000-6-2, EN61000-6-4								
	UL, cUL *6	UL508								
	KC	Certified								
	Radio law *7	Japan: TELEC USA: FCC Europe: R&TTE Korea: KC		-						

*1 Only for picture parts and video input.
*2 For V9071iW and V9060iTD: only when DUR-00 unit is attached.
*3 For Siemens MPI connection only.
*4 4-wire system for V9071iW and V9060iTD. MJ2 supports 187.5kbps.

*5 It varies depending on the model.
*6 For DC types only.
*7 For wireless LAN models only.

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< Interface >

Battery

Optional unit *

- Video input + RGB input
- RGB input (2CH)
- Video input (4CH)
- RGB input
- RGB output

Communication unit

- OPCN-1
- T-Link
- CC-Link *
- Ethernet
- PROFIBUS-DP *
- DeviceNet *
- FL-net
- SX bus

SD card

V9 Advanced 10.1"
V9 Standard all models

Audio Output

Serial connection
Modular 8-pin

Serial connection
D-Sub 9-pin

V9 Advanced only

External antenna I/F
for Wireless LAN

(For some models)

Ethernet

USB2.0 master

(Type A)

V9 Advanced only

Ethernet (2nd port)

(For some models)

USB2.0 slave

(Type mini-B)

*1 Release data will differ by product. Please ask your contact person for the details.

< Dimensions - V9101iW - >

(Unit: mm)

Side view

47.2
6.0

Front view

278.5
198.5
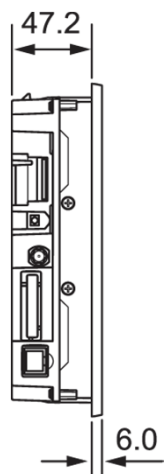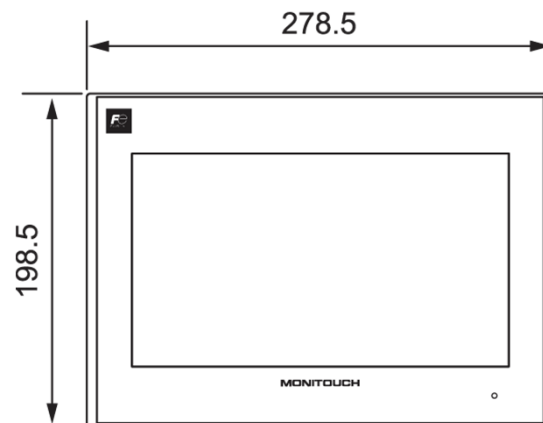
V810: 303.8×231mm
V808: 233×178mm

Rear view

256.0
182.0

Bottom view

53.2
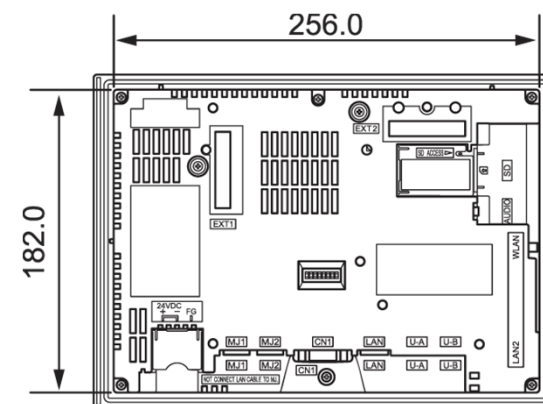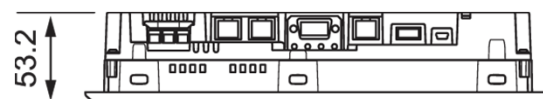
V810 : 69mm
V808 : 65.6mm

Panel cutout

$257.0^{+0.5}_{-0}$
$183.0^{+0.5}_{-0}$

No compatibility with V8

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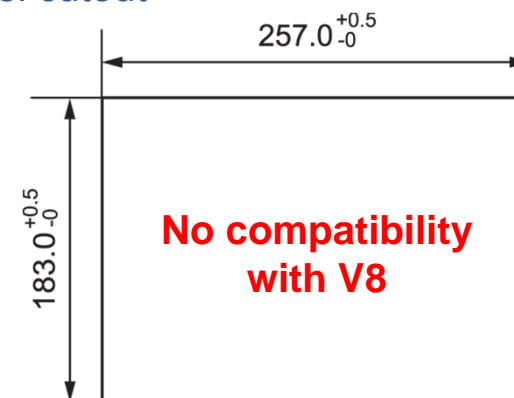
< Dimensions - V9071iW ->

(Unit: mm)

Side view

53.1

7.2

Front view

201.6

147.6
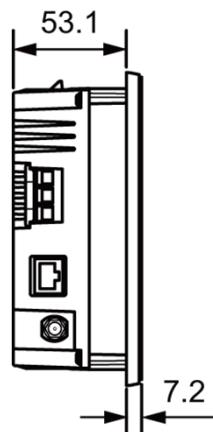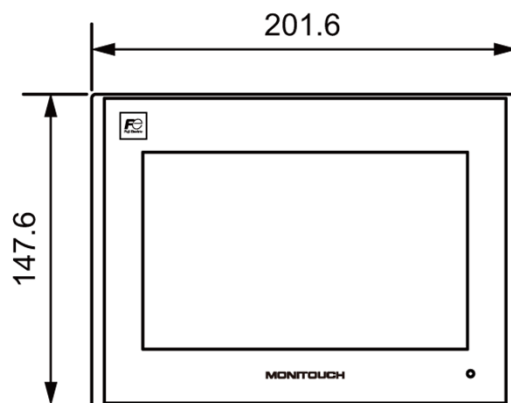
V808 : 233×178mm
V806 : 182.5×138.8mm

Rear view

186.2

132.4

24VDC

Bottom view

60.3
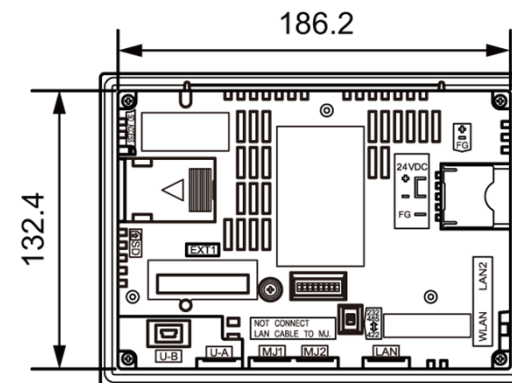
V808 : 65.6mm
V806 : 50.8mm

Panel cutout

$187.2^{+0.5}_{-0}$

$133.4^{+0.5}_{-0}$

No compatibility with V8

Hakko Electronics Co., Ltd.
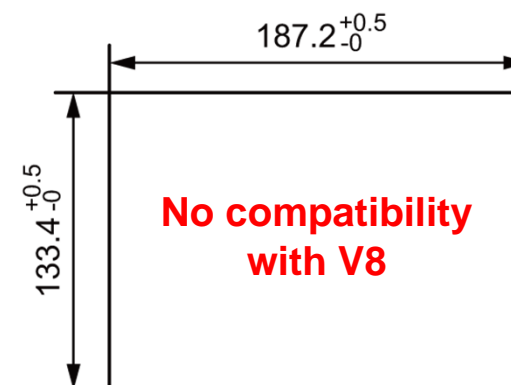
< Dimensions - V9150iX - >

(Unit: mm)

Side view

72.5

8.3
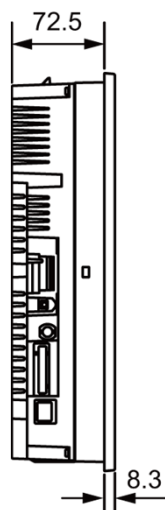
Front view
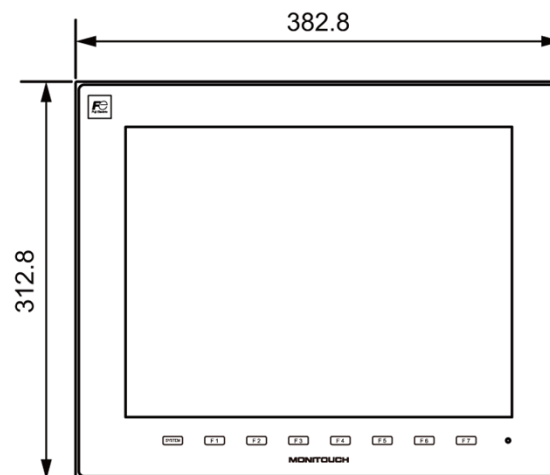
382.8

312.8

V815 : 382.8×312.8mm

Rear view

368.4

298.4

Bottom view

80.8

V815 : 81.1mm

Panel cutout

369.4 $^{+0.5}_{-0}$

299.4 $^{+0.5}_{-0}$

Compatible with V815iX
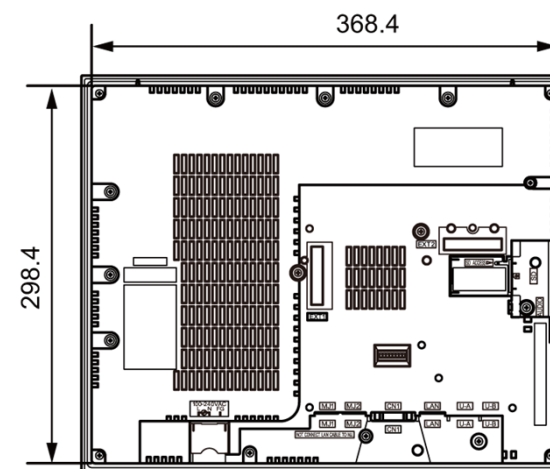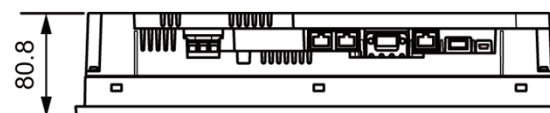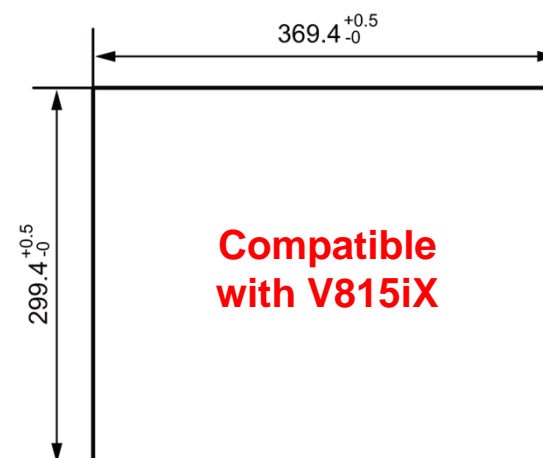
< Dimensions - V9120iS - >

(Unit: mm)

Side view

47.9

7.0

Front view

327.8

261.0
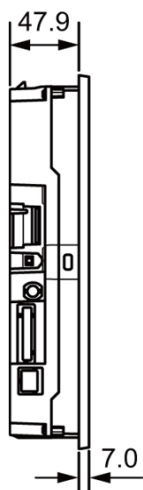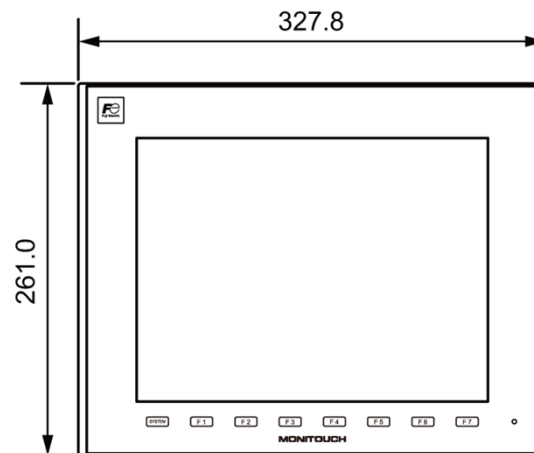
V812 : 326.4×259.6mm

Rear view

312.0

245.2

Bottom view

54.9

V812 : 69mm

Panel cutout

$313.0^{+0.5}_{-0}$

$246.2^{+0.5}_{-0}$

Compatible with V812iS
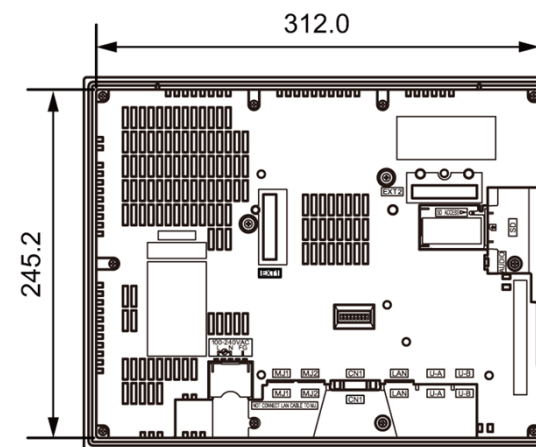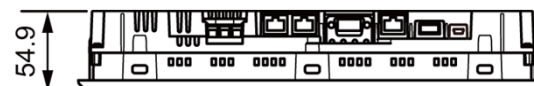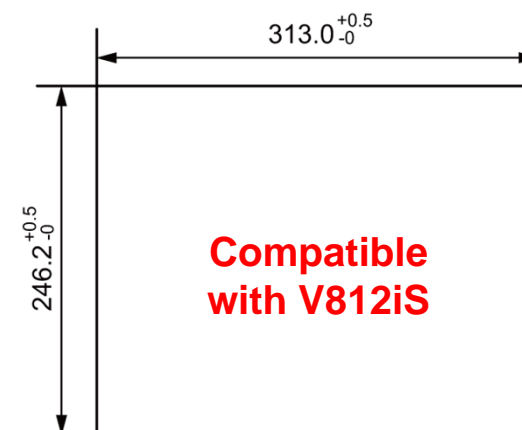
< Dimensions - V9100i - >

(Unit: mm)

Side view

48.0

6.0

Front view

303.8

231.0
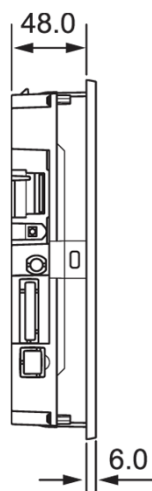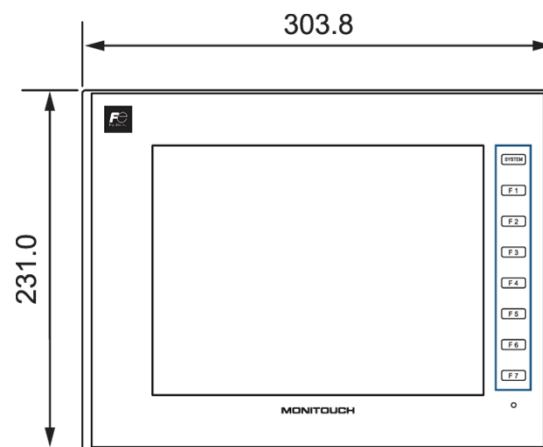
V810 : 303.8×231mm

Rear view

288.0

215.2

Bottom view

54.0

V810 : 69mm

Panel cutout

$289.0^{+0.5}_{-0}$

$216.2^{+0.5}_{-0}$

Compatible with V810
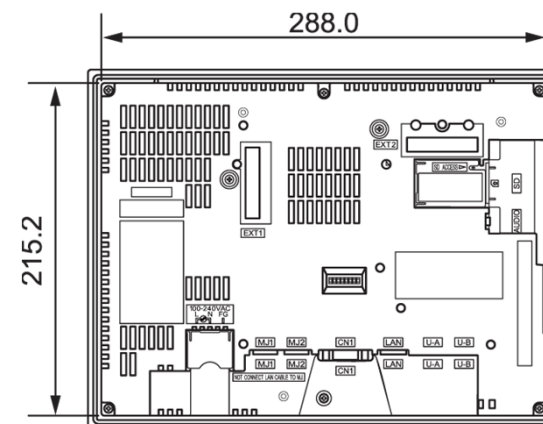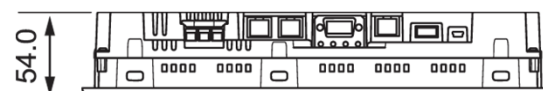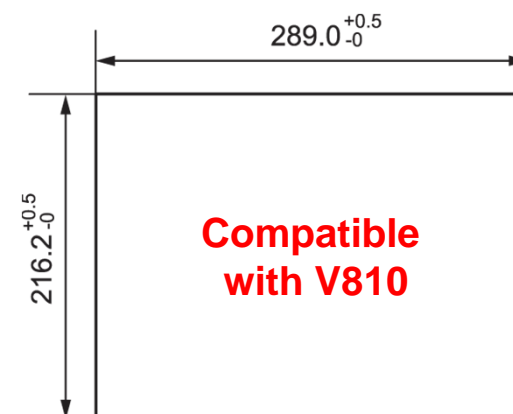
< Dimensions - V9080i - >

(Unit: mm)

Side view

42.9

6.0

Front view

235.0

180.0

V808 : 233×178mm

Rear view

219.5

164.5

Bottom view

48.9

V808 : 65.6mm

Panel cutout

$220.5^{+0.5}_{-0}$

$165.5^{+0.5}_{-0}$

Compatible With V808
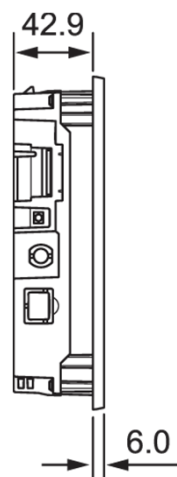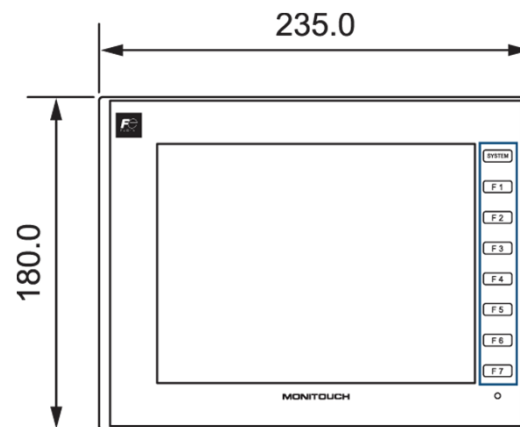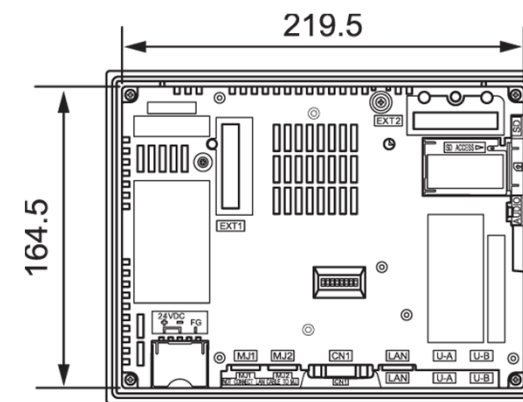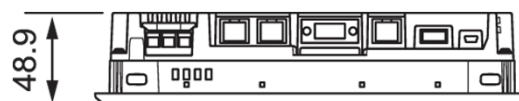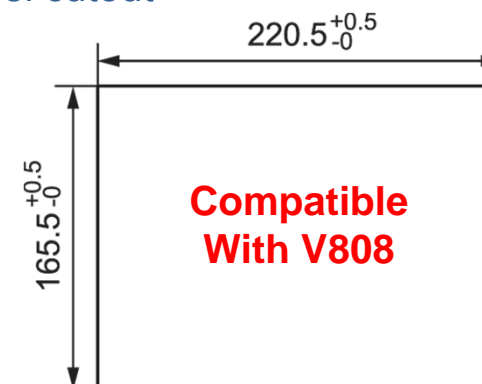
< Dimensions - V9060iTD - >

(Unit: mm)

Side view

47.0

6.0

Front view

182.5

138.8

V806 : 182.5×138.8mm

Rear view

173.0

130.0

Bottom view

53.0

V806 : 50.8mm

Panel cutout

$174.0^{+0.5}_{-0}$

$131.0^{+0.5}_{-0}$

Compatible with V806

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